Food and Drug Administration, HHS

kGy (2.5 megarads Mrad). The absorbed dose of irradiation is to be based on initial concentration of salmonella using the relationship that 1.0 kGy (0.1 Mrad) reduces salmonella concentration by one log cycle (one decimal reduction).

(2) Feeds treated by irradiation should be formulated to account for nutritional loss.

(3) If an irradiated feed ingredient is less than 5 percent of the final product, the final product can be irradiated without being considered to be re-irradiated.

[60 FR 50099, Sept. 28, 1995]

PART 582—SUBSTANCES GENERALLY RECOGNIZED AS SAFE

Subpart A—General Provisions

Sec. 582.1 Substances that are generally recognized as safe.

582.10 Spices and other natural seasonings and flavorings.

582.20 Essential oils, oleoresins (solvent-free), and natural extractives (including distillates).

582.30 Natural substances used in conjunction with spices and other natural seasonings and flavorings.

582.40 Natural extractives (solvent-free) used in conjunction with spices, seasonings, and flavorings.

582.50 Certain other spices, seasonings, essential oils, oleoresins, and natural extracts.

582.60 Synthetic flavoring substances and adjuvants.

582.70 Trace minerals added to animal feeds.

582.99 Adjuvants for pesticide chemicals.

Subpart B—General Purpose Food Additives

582.1005 Acetic acid.

582.1009 Adipic acid.

582.1013 Citric acid.

582.1057 Hydrochloric acid.

582.1061 Lactic acid.

582.1069 Malic acid.

582.1073 Phosphoric acid.

582.1077 Potassium acid tartrate.

582.1087 Sodium acid pyrophosphate.

582.1091 Succinic acid.

582.1095 Sulfuric acid.

582.1099 Tartaric acid.

582.1125 Aluminum sulfate.

582.1127 Aluminum ammonium sulfate.

582.1129 Aluminum potassium sulfate.

582.1131 Aluminum sodium sulfate.

582.1135 Ammonium bicarbonate.

582.1137 Ammonium carbonate.

582.1139 Ammonium hydroxide.

582.1141 Ammonium phosphate.

582.1143 Ammonium sulfate.

582.1155 Bentonite.

582.1165 Butane.

582.1191 Calcium carbonate.

582.1193 Calcium chloride.

582.1195 Calcium citrate.

582.1199 Calcium gluconate.

582.1205 Calcium hydroxide.

582.1207 Calcium lactate.

582.1210 Calcium oxide.

582.1217 Calcium phosphate.

582.1235 Caramel.

582.1240 Carbon dioxide.

582.1255 Calcium hydroxide.

582.1267 Calcium lactate.

582.1270 Calcium oxide.

582.1275 Calcium phosphate.

582.1285 Calcium sulfate.

582.1290 Calcium tungstate.

582.1295 Calcium metaphosphate.

582.1300 Calcium orthophosphate.

582.1305 Calcium hypophosphite.

582.1310 Calcium pyrophosphate.

582.1315 Calcium silicate.

582.1320 Calcium carbonate.

582.1324 Glycerol monostearate.

582.1340 Calcium stearate.

582.1355 Calcium chloride.

582.1360 Calcium phosphate.

582.1365 Calcium sulfate.

582.1370 Calcium oxide.

582.1375 Calcium hydroxide.

582.1380 Calcium lactate.

582.1395 Calcium acetate.

582.1400 Calcium propionate.

582.1405 Calcium formate.

582.1410 Calcium stearate.

582.1415 Calcium palmitate.

582.1420 Calcium benzoate.

582.1425 Magnesium carbonate.

582.1428 Magnesium hydroxide.

582.1431 Magnesium oxide.

582.1450 Magnesium carbonate.

582.1463 Magnesium hydroxide.

582.1476 Magnesium oxide.

582.1480 Methyleneblue.

582.1490 Methyleneblue.

582.1500 Monoammonium glutamate.

582.1516 Monopotassium glutamate.

582.1540 Nitrogen.

582.1585 Papain.

582.1619 Potassium carbonate.

582.1625 Potassium carbonate.

582.1631 Potassium hydroxide.

582.1643 Potassium carbonate.

582.1655 Propene.

582.1666 Propylene glycol.

582.1685 Rennet.

582.1711 Silica aerogel.

582.1721 Sodium acetate.

582.1736 Sodium benzoate.

582.1742 Sodium carbonate.

582.1745 Sodium carboxymethylcellulose.

582.1746 Sodium caseinate.

582.1751 Sodium citrate.

582.1763 Sodium hydroxide.

582.1775 Sodium pectinate.

582.1778 Sodium phosphate.

582.1781 Sodium aluminum phosphate.

582.1792 Sodium sesquicarbonate.

582.1804 Sodium potassium tartrate.

582.1810 Sodium tripolyphosphate.

582.1811 Triacetin.

582.1830 Beeswax.

582.1845 Carnauba wax.

Subpart C—Anticaking Agents

582.2122 Aluminum calcium silicate.

582.2227 Calcium silicate.

582.2347 Magnesium silicate.

582.2727 Sodium aluminosilicate.

582.2729 Hydrated sodium calcium aluminosilicate.

582.2906 Tricalcium silicate.
Subpart D—Chemical Preservatives

582.3013 Ascorbic acid.
582.3021 Benzoic acid.
582.3041 Erythorbic acid.
582.3081 Propionic acid.
582.3109 Thiodipropionic acid.
582.3119 Ascorbyl palmitate.
582.3149 Butylated hydroxyanisole.
582.3169 Butylated hydroxytoluene.
582.3189 Calcium ascorbate.
582.3221 Calcium propionate.
582.3225 Calcium sorbate.
582.3280 Dilauryl thiodipropionate.
582.3336 Gum guaiac.
582.3490 Methylparaben.
582.3616 Potassium bisulfite.
582.3637 Potassium metabisulfite.
582.3640 Potassium sorbate.
582.3660 Propyl gallate.
582.3670 Propylparaben.
582.3718 Calcium glycerophosphate.
582.3733 Sodium benzoate.
582.3739 Sodium bisulfite.
582.3749 Sodium metabisulfite.
582.3750 Sodium sorbate.
582.3758 Sodium sulfite.
582.3784 Sodium propionate.
582.3795 Sodium thiosulfate.
582.3798 Sodium thiocyanate.
582.3820 Stannous chloride.
582.3830 Sulfur dioxide.
582.3890 Tocopherols.
582.3915 Taurine.
582.3929 Threonine.
582.3930 Threonine hydroxy analog and its calcium salts.
582.3932 Threonine hydroxy analog and its calcium salts.
582.3933 Threonine hydroxy analog and its calcium salts.
582.3934 Threonine hydroxy analog and its calcium salts.
582.3935 Threonine hydroxy analog and its calcium salts.
582.3936 Threonine hydroxy analog and its calcium salts.
582.3937 Threonine hydroxy analog and its calcium salts.
582.3938 Threonine hydroxy analog and its calcium salts.
582.3939 Threonine hydroxy analog and its calcium salts.
582.3940 Threonine hydroxy analog and its calcium salts.
582.3941 Threonine hydroxy analog and its calcium salts.
582.3942 Threonine hydroxy analog and its calcium salts.
582.3943 Threonine hydroxy analog and its calcium salts.
582.3944 Threonine hydroxy analog and its calcium salts.
582.3945 Threonine hydroxy analog and its calcium salts.
582.3946 Threonine hydroxy analog and its calcium salts.
582.3947 Threonine hydroxy analog and its calcium salts.
582.3948 Threonine hydroxy analog and its calcium salts.
582.3949 Threonine hydroxy analog and its calcium salts.
582.3950 Threonine hydroxy analog and its calcium salts.
582.3951 Threonine hydroxy analog and its calcium salts.
582.3952 Threonine hydroxy analog and its calcium salts.
582.3953 Threonine hydroxy analog and its calcium salts.
582.3954 Threonine hydroxy analog and its calcium salts.
582.3955 Threonine hydroxy analog and its calcium salts.
582.3956 Threonine hydroxy analog and its calcium salts.
582.3957 Threonine hydroxy analog and its calcium salts.
582.3958 Threonine hydroxy analog and its calcium salts.
582.3959 Threonine hydroxy analog and its calcium salts.
582.3960 Threonine hydroxy analog and its calcium salts.
582.3961 Threonine hydroxy analog and its calcium salts.
582.3962 Threonine hydroxy analog and its calcium salts.
582.3963 Threonine hydroxy analog and its calcium salts.
582.3964 Threonine hydroxy analog and its calcium salts.
582.3965 Threonine hydroxy analog and its calcium salts.
582.3966 Threonine hydroxy analog and its calcium salts.
582.3967 Threonine hydroxy analog and its calcium salts.
582.3968 Threonine hydroxy analog and its calcium salts.
582.3969 Threonine hydroxy analog and its calcium salts.
582.3970 Threonine hydroxy analog and its calcium salts.
582.3971 Threonine hydroxy analog and its calcium salts.
582.3972 Threonine hydroxy analog and its calcium salts.
582.3973 Threonine hydroxy analog and its calcium salts.
582.3974 Threonine hydroxy analog and its calcium salts.
582.3975 Threonine hydroxy analog and its calcium salts.
Subpart A—General Provisions

§ 582.1 Substances that are generally recognized as safe.

(a) It is impracticable to list all substances that are generally recognized as safe for their intended use. However, by way of illustration, the Commissioner regards such common food ingredients as salt, pepper, sugar, vinegar, baking powder, and monosodium glutamate as safe for their intended use. The lists in subparts B through H of this part include additional substances that, when used for the purposes indicated, in accordance with good manufacturing or feeding practice, are regarded by the Commissioner as generally recognized as safe for such uses.

(b) For the purposes of this section, good manufacturing or feeding practice shall be defined to include the following restrictions:

(1) The quantity of a substance added to animal food does not exceed the amount reasonably required to accomplish its intended physical, nutritional, or other technical effect in food; and

(2) The quantity of a substance that becomes a component of animal food as a result of its use in the manufacturing, processing, or packaging of food, and which is not intended to accomplish any physical or other technical effect in the food itself, shall be reduced to the extent reasonably possible.

(3) The substance is of appropriate grade and is prepared and handled as a food ingredient. Upon request the Commissioner will offer an opinion, based on specifications and intended use, as to whether or not a particular grade or lot of the substance is of suitable purity for use in food and would generally be regarded as safe for the purpose intended, by experts qualified to evaluate its safety.

(c) The inclusion of substances in the list of nutrients does not constitute a finding on the part of the Department that the substance is useful as a supplement to the diet for animals.

(d) Substances that are generally recognized as safe for their intended use within the meaning of section 409 of the Act are listed in subparts B through H of this part. When the status of a substance has been reevaluated and affirmed as GRAS or deleted from subparts B through H of this part, an appropriate explanation will be noted, e.g., “affirmed as GRAS,” “food additive regulation,” “interim food additive regulation,” or “prohibited from use in food,” with a reference to the appropriate new regulation. Such notation will apply only to the specific use covered by the review, e.g., direct animal food use and/or indirect animal food use and/or animal feed use and will not affect its status for other uses not specified in the referenced regulation, pending a specific review of such other uses.
Spices and other natural seasonings and flavorings that are generally recognized as safe for their intended use, within the meaning of section 409 of the act, are as follows:

<table>
<thead>
<tr>
<th>Common name</th>
<th>Botanical name of plant source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa herb and seed</td>
<td>Medicago sativa L.</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>Pimenta officinalis L.</td>
</tr>
<tr>
<td>Ambrette seed</td>
<td>Hibiscus abelmoschus L.</td>
</tr>
<tr>
<td>Angelica</td>
<td>Angelica archangelica L. or other spp. of Angelica. Do.</td>
</tr>
<tr>
<td>Angelica root</td>
<td></td>
</tr>
<tr>
<td>Angelica seed</td>
<td></td>
</tr>
<tr>
<td>Angelica Archangelica L.</td>
<td></td>
</tr>
<tr>
<td>Angelica Archangelica L.</td>
<td></td>
</tr>
<tr>
<td>Angelica Archangelica L.</td>
<td></td>
</tr>
<tr>
<td>Anis (Anisum)</td>
<td>Galipea officinalis L.</td>
</tr>
<tr>
<td>Anise</td>
<td>Pimpinella anisum L.</td>
</tr>
<tr>
<td>Anise, star</td>
<td>Illicium verum Hook. f.</td>
</tr>
<tr>
<td>Balm (balm)</td>
<td>Melissa officinalis L.</td>
</tr>
<tr>
<td>Basil, bush</td>
<td>Ocimum minimum L.</td>
</tr>
<tr>
<td>Basil, sweet</td>
<td>Ocimum basilicum L.</td>
</tr>
<tr>
<td>Bay</td>
<td>Laurus nobilis L.</td>
</tr>
<tr>
<td>Calendula</td>
<td>Calendula officinalis L.</td>
</tr>
<tr>
<td>Camomile (Camomile, English or Roman)</td>
<td>Cinnamomum cassia Blume.</td>
</tr>
<tr>
<td>Camomile, German or Hungarian</td>
<td>Cinnamomum burmanni Blume.</td>
</tr>
<tr>
<td>Capers</td>
<td>Cinnamomum loureii Nees.</td>
</tr>
<tr>
<td>Capsicum</td>
<td>Capsicum frutescens L. or Capsicum annuum L.</td>
</tr>
<tr>
<td>Capsicum, Guatemalan</td>
<td>Capsicum frutescens L. or Capsicum annuum L.</td>
</tr>
<tr>
<td>Capsicum, Hawaiian</td>
<td>Capsicum frutescens L. or Capsicum annuum L.</td>
</tr>
<tr>
<td>Capsicum, Havana</td>
<td>Capsicum frutescens L. or Capsicum annuum L.</td>
</tr>
<tr>
<td>Caraway</td>
<td>Cuminum cyminum L.</td>
</tr>
<tr>
<td>Caraway, black (black cumin)</td>
<td>Nigella sativa L.</td>
</tr>
<tr>
<td>Cardamom (Cardamon)</td>
<td>Elettaria cardamomum Maton.</td>
</tr>
<tr>
<td>Cassia, Chinese</td>
<td>Cinnamomum cassia Blume.</td>
</tr>
<tr>
<td>Cassia, Padang or Batavia</td>
<td>Cinnamomum burmanni Blume.</td>
</tr>
<tr>
<td>Cassia, Saigon</td>
<td>Cinnamomum loureii Nees.</td>
</tr>
<tr>
<td>Cayenne pepper</td>
<td>Capsicum frutescens L. or Capsicum annuum L.</td>
</tr>
<tr>
<td>Celery seed</td>
<td>Apium graveolens L.</td>
</tr>
<tr>
<td>Chervil</td>
<td>Anthriscus ceratophyllum L.</td>
</tr>
<tr>
<td>Chives</td>
<td>Allium schoenoprasum L.</td>
</tr>
<tr>
<td>Cinnamon, Ceylon</td>
<td>Cinnamomum zeylanicum Nees.</td>
</tr>
<tr>
<td>Cinnamon, Chinese</td>
<td>Cinnamomum cassia Blume.</td>
</tr>
<tr>
<td>Cinnamon, Saigon</td>
<td>Cinnamomum loureii Nees.</td>
</tr>
<tr>
<td>Clary (Clary Sage)</td>
<td>Salvia rotundifolia L.</td>
</tr>
<tr>
<td>Clover</td>
<td>Trifolium pratense L.</td>
</tr>
<tr>
<td>Coriander</td>
<td>Coriandrum sativum L.</td>
</tr>
<tr>
<td>Cumin (Cummin)</td>
<td>Cuminum cyminum L.</td>
</tr>
<tr>
<td>Cumin, black (black caraway)</td>
<td>Nigella sativa L.</td>
</tr>
<tr>
<td>Dill</td>
<td>Allium sativum L.</td>
</tr>
<tr>
<td>Elder flowers</td>
<td>Sambucus canadensis L.</td>
</tr>
<tr>
<td>Fennel, common</td>
<td>Foeniculum vulgare Mill.</td>
</tr>
<tr>
<td>Fennel, sweet (finochio, Florence fennel)</td>
<td>Foeniculum vulgare Mill. var. dulce (DC.) Alex.</td>
</tr>
<tr>
<td>Fenugreek</td>
<td>Trigonella foenum-graecum L.</td>
</tr>
<tr>
<td>Galanga (galangal)</td>
<td>Alpinia officinarum Hance.</td>
</tr>
<tr>
<td>Garlic</td>
<td>Allium sativum L.</td>
</tr>
<tr>
<td>Geranium</td>
<td>Pelargonium spp.</td>
</tr>
<tr>
<td>Ginger</td>
<td>Zingiber officinale Rosc.</td>
</tr>
<tr>
<td>Glycyrrhiza</td>
<td>Glycyrrhiza glabra L. and other spp. of Glycyrrhiza.</td>
</tr>
<tr>
<td>Grains of paradise</td>
<td>Anomum melegueta Rosc.</td>
</tr>
<tr>
<td>Horehound (Horehound)</td>
<td>Marnium vulgare L.</td>
</tr>
<tr>
<td>Horseradish</td>
<td>Armoracia lapathitola Gilib.</td>
</tr>
<tr>
<td>Licorice</td>
<td>Glycyrrhiza glabra L. and other spp. of Glycyrrhiza.</td>
</tr>
<tr>
<td>Linden flowers</td>
<td>Tilia spp.</td>
</tr>
<tr>
<td>Mace</td>
<td>Myristica fragrans Houtt.</td>
</tr>
<tr>
<td>Marjoram, pot</td>
<td>Calendula officinalis L.</td>
</tr>
<tr>
<td>Marjoram, Sweet</td>
<td>Majorana onites (L.) Benth.</td>
</tr>
<tr>
<td>Mustard, black or brown</td>
<td>Majorana hortensis Moench.</td>
</tr>
<tr>
<td>Mustard, brown</td>
<td>Brassica nigra (L.) Koch.</td>
</tr>
<tr>
<td>Mustard, white or yellow</td>
<td>Brassica juncea (L.) Coss.</td>
</tr>
<tr>
<td>Nutmeg</td>
<td>Brassica horia Moench.</td>
</tr>
<tr>
<td>Oregano (Oreganum, Mexican oregano, Mexican sage, origan)</td>
<td>Myristica fragrans Houtt.</td>
</tr>
<tr>
<td>Paprika</td>
<td>Lippia spp.</td>
</tr>
<tr>
<td>Parsley</td>
<td>Capsicum annuum L.</td>
</tr>
<tr>
<td>Pepper, black</td>
<td>Capsicum frutescens L. or Capsicum annuum L.</td>
</tr>
<tr>
<td>Pepper, cayenne</td>
<td>Do.</td>
</tr>
<tr>
<td>Pepper, red</td>
<td>Do.</td>
</tr>
</tbody>
</table>

§ 582.10 Spices and other natural seasonings and flavorings.

21 CFR Ch. I (4-1-98 Edition)
§ 582.20 Essential oils, oleoresins (solvent-free), and natural extractives (including distillates).

Essential oils, oleoresins (solvent-free), and natural extractives (including distillates) that are generally recognized as safe for their intended use, within the meaning of section 409 of the act, are as follows:

<table>
<thead>
<tr>
<th>Common name</th>
<th>Botanical name of plant source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pepper, white</td>
<td>Piper nigrum L.</td>
</tr>
<tr>
<td>Peppermint</td>
<td>Mentha piperita L.</td>
</tr>
<tr>
<td>Poppy seed</td>
<td>Papaver somniferum L.</td>
</tr>
<tr>
<td>Pot marigold</td>
<td>Calendula officinalis L.</td>
</tr>
<tr>
<td>Pot marigold (vent-free)</td>
<td>Majorana amara L.</td>
</tr>
<tr>
<td>Rosemary</td>
<td>Rosmarinus officinalis L.</td>
</tr>
<tr>
<td>Rue</td>
<td>Ruta graveolens L.</td>
</tr>
<tr>
<td>Salicornia</td>
<td>Crocus sativus L.</td>
</tr>
<tr>
<td>Sage</td>
<td>Salvia officinalis L.</td>
</tr>
<tr>
<td>Sage, Greek</td>
<td>Salvia fruticola L.</td>
</tr>
<tr>
<td>Savory, summer</td>
<td>Satureia hortensis L.</td>
</tr>
<tr>
<td>Savory, winter</td>
<td>Satureia montana L.</td>
</tr>
<tr>
<td>Sesame</td>
<td>Sesamum indicum L.</td>
</tr>
<tr>
<td>Spearmint</td>
<td>Mentha spicata L.</td>
</tr>
<tr>
<td>Star anise</td>
<td>Illicium verum Hook. f.</td>
</tr>
<tr>
<td>Tarragon</td>
<td>Artemisia dracunculus L.</td>
</tr>
<tr>
<td>Thyme</td>
<td>Thymus vulgaris L.</td>
</tr>
<tr>
<td>Thyme, wild or creeping</td>
<td>Thymus serpyllum L.</td>
</tr>
<tr>
<td>Turmeric</td>
<td>Curcuma longa L.</td>
</tr>
<tr>
<td>Vanilla</td>
<td>Vanilla planifolia Andr. or Vanilla tahitensis J. W. Moore.</td>
</tr>
<tr>
<td>Zedoary</td>
<td>Curcuma zedoaria Rosc.</td>
</tr>
</tbody>
</table>

§ 582.20 Essential oils, oleoresins (solvent-free), and natural extractives (including distillates).

<table>
<thead>
<tr>
<th>Common name</th>
<th>Botanical name of plant source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alfalfa</td>
<td>Medicago sativa L.</td>
</tr>
<tr>
<td>Alispice</td>
<td>Pimenta officinalis Lind.</td>
</tr>
<tr>
<td>Almond, bitter (free from prussic acid)</td>
<td>Prunus amygdalus L. or Prunus persica (L.) Batsch.</td>
</tr>
<tr>
<td>Ambrette (seed)</td>
<td>Hibiscus moschatus L.</td>
</tr>
<tr>
<td>Angelica root</td>
<td>Angelica archangelica L.</td>
</tr>
<tr>
<td>Angelica seed</td>
<td>Do.</td>
</tr>
<tr>
<td>Angelica stem</td>
<td>Do.</td>
</tr>
<tr>
<td>Angostura (cusparia bark)</td>
<td>Galipea officinalis L.</td>
</tr>
<tr>
<td>Anise</td>
<td>Pimpinella anisum L.</td>
</tr>
<tr>
<td>Asetefida</td>
<td>Foenula asafoetida L.</td>
</tr>
<tr>
<td>Balm (lemon balm)</td>
<td>Melissa officinalis L.</td>
</tr>
<tr>
<td>Balsam of Peru</td>
<td>Myroxylon Pereira L.</td>
</tr>
<tr>
<td>Basil</td>
<td>Ocimum basilicum L.</td>
</tr>
<tr>
<td>Bay leaves</td>
<td>Laurus nobilis L.</td>
</tr>
<tr>
<td>Bay (myrrh oil)</td>
<td>Eucalyptus officinalis L.</td>
</tr>
<tr>
<td>Bergamot (bergamot orange)</td>
<td>Citrus aurantium L. subsp. bergamia Wright et Am.</td>
</tr>
<tr>
<td>Bois de rose (free from prussic acid)</td>
<td>Prunus amygdalus L. or Prunus persica (L.) Batsch.</td>
</tr>
<tr>
<td>Cacao</td>
<td>Theobroma cacao L.</td>
</tr>
<tr>
<td>Camomile (chamomile) flowers, Hungarian</td>
<td>Matricaria chamomilla L.</td>
</tr>
<tr>
<td>Cananga</td>
<td>Anthemis nobilis L.</td>
</tr>
<tr>
<td>Capsicum</td>
<td>Cananga odorata Hook. f. and Thoms.</td>
</tr>
<tr>
<td>Caraway</td>
<td>Capsicum frutescens L. and Capsicum annuum L.</td>
</tr>
<tr>
<td>Cardamom seed (cardamon)</td>
<td>Carum carvi L.</td>
</tr>
<tr>
<td>Carob bean</td>
<td>Elettaria cardamomum L.</td>
</tr>
<tr>
<td>Carrot</td>
<td>Curatonia siliqua L.</td>
</tr>
<tr>
<td>Cassicaria bark</td>
<td>Daucus carota L.</td>
</tr>
<tr>
<td>Cassia bark, Chinese</td>
<td>Citron elateria Binn.</td>
</tr>
<tr>
<td>Cassia bark, Padang or Batavia</td>
<td>Cinnamomum cassia Blume.</td>
</tr>
<tr>
<td>Cassia bark, Saigon</td>
<td>Cinnamomum burmannii Blume.</td>
</tr>
<tr>
<td>Celery seed</td>
<td>Cinnamomum loureini Nees.</td>
</tr>
<tr>
<td>Cherry, wild, bark</td>
<td>Apium graveolens L.</td>
</tr>
<tr>
<td>Chervil</td>
<td>Prunus serotina L.</td>
</tr>
<tr>
<td>Chicory</td>
<td>Anthriscus cerefolium (L.) Hoffm.</td>
</tr>
<tr>
<td>Cinnamon bark, Ceylon</td>
<td>Cinnamomum zeylanicum L.</td>
</tr>
<tr>
<td>Cinnamon bark, Chinese</td>
<td>Cinnamomum cassia Nees.</td>
</tr>
<tr>
<td>Cinnamon bark, Saigon</td>
<td>Cinnamomum loureini Nees.</td>
</tr>
</tbody>
</table>

485
<table>
<thead>
<tr>
<th>Common name</th>
<th>Botanical name of plant source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cinnamon leaf, Ceylon</td>
<td>Cinnamomum zeylanicum Nees.</td>
</tr>
<tr>
<td>Cinnamon leaf, Saigon</td>
<td>Cinnamomum cassia Blume.</td>
</tr>
<tr>
<td>Citronella</td>
<td>Cinnamomum loureinii Nees.</td>
</tr>
<tr>
<td>Citrus peel</td>
<td>Cymbopogon nardus Rendle.</td>
</tr>
<tr>
<td>Clary (clary sage)</td>
<td>Salvia sclarea L.</td>
</tr>
<tr>
<td>Close bud</td>
<td>Citrus spp.</td>
</tr>
<tr>
<td>Close leaf</td>
<td>Erythroxyllum coca Lam. and other spp. of Erythroxyllum.</td>
</tr>
<tr>
<td>Clove</td>
<td>Eugenia caryophylla Thumb.</td>
</tr>
<tr>
<td>Clover</td>
<td>Do.</td>
</tr>
<tr>
<td>Cocoa (decoacanized)</td>
<td>Trifolium spp.</td>
</tr>
<tr>
<td>Coffee</td>
<td>Coffea spp.</td>
</tr>
<tr>
<td>Cola nut</td>
<td>Cola acuminata Schott and Endl., and other spp. of Cola.</td>
</tr>
<tr>
<td>Coriander</td>
<td>Coriandrum sativum L.</td>
</tr>
<tr>
<td>Corn silk</td>
<td>Zea mays L.</td>
</tr>
<tr>
<td>Cummin (cumint)</td>
<td>Cuminum cyminum L.</td>
</tr>
<tr>
<td>Curacao orange peel (orange, bitter peel)</td>
<td>Citrus aurantium L.</td>
</tr>
<tr>
<td>Cuspania bark</td>
<td>Galipea officinalis Hancock.</td>
</tr>
<tr>
<td>Dandeloil</td>
<td>Taraxacum officinale Weber and T. laevigatum DC.</td>
</tr>
<tr>
<td>Dandelion</td>
<td>Do.</td>
</tr>
<tr>
<td>Dandelion root</td>
<td>Do.</td>
</tr>
<tr>
<td>Dill</td>
<td>Antemisia dinacculus L.</td>
</tr>
<tr>
<td>Dog grass (quackgrass, trilicum)</td>
<td>Sambucus canadensis L. and S. nigra L.</td>
</tr>
<tr>
<td>Elder flowers</td>
<td>Artemisia dracunculus L.</td>
</tr>
<tr>
<td>Estragote (esdragol, esdragon, tarragon)</td>
<td>Do.</td>
</tr>
<tr>
<td>Estragon (tarragon)</td>
<td>Do.</td>
</tr>
<tr>
<td>Fennel, sweet</td>
<td>Foeniculum vulgare Mill.</td>
</tr>
<tr>
<td>Fenugreek</td>
<td>Trigonella foenum-graecum L.</td>
</tr>
<tr>
<td>Galanga (galangal)</td>
<td>Alpinia officinalis Hance.</td>
</tr>
<tr>
<td>Garlic</td>
<td>Allium sativum L.</td>
</tr>
<tr>
<td>Geranium</td>
<td>Paelargonium spp.</td>
</tr>
<tr>
<td>Geranium, East Indian</td>
<td>Cymbopogon martini Stapf.</td>
</tr>
<tr>
<td>Geranium, rose</td>
<td>Paelargonium graveolens L'Her.</td>
</tr>
<tr>
<td>Ginger</td>
<td>Zingiber officinalis Rosc.</td>
</tr>
<tr>
<td>Gychnophiza</td>
<td>Glycyrrhiza glabra L. and other spp. of Glycyrrhiza.</td>
</tr>
<tr>
<td>Gymnichin, ammoniated</td>
<td>Do.</td>
</tr>
<tr>
<td>Grapefruit</td>
<td>Citrus paradisi Macf.</td>
</tr>
<tr>
<td>Guava</td>
<td>Paidium spp.</td>
</tr>
<tr>
<td>Hickory bark</td>
<td>Carya spp.</td>
</tr>
<tr>
<td>Horehound (horehound)</td>
<td>Marrubium vulgare L.</td>
</tr>
<tr>
<td>Hops</td>
<td>Humulus lupulus L.</td>
</tr>
<tr>
<td>Horsmints</td>
<td>Monarda punctata L.</td>
</tr>
<tr>
<td>Hyssop</td>
<td>Hyssopus officinalis L.</td>
</tr>
<tr>
<td>Immortelle</td>
<td>Helichrysum augustifolium DC.</td>
</tr>
<tr>
<td>Jasmine</td>
<td>Jasminum officinale L. and other spp. of Jasminum.</td>
</tr>
<tr>
<td>Juniper berries</td>
<td>Juniperus communis L.</td>
</tr>
<tr>
<td>Kola nut</td>
<td>Cola acuminata Schott and Endl., and other spp. of Cola.</td>
</tr>
<tr>
<td>Laurel berries</td>
<td>Laurus nobilis L.</td>
</tr>
<tr>
<td>Laurel leaves</td>
<td>Laurus spp.</td>
</tr>
<tr>
<td>Lavender</td>
<td>Lavandula officinalis Chax.</td>
</tr>
<tr>
<td>Lavender, spike</td>
<td>Lavandula latifolia Vill.</td>
</tr>
<tr>
<td>Lavandin</td>
<td>Hybrids between Lavandula officinalis Chax and Lavandula latifolia Vill.</td>
</tr>
<tr>
<td>Lemon</td>
<td>Citrus limon (L.) Burm. f.</td>
</tr>
<tr>
<td>Lemon balm (see balm)</td>
<td>Cymbopogon citratus DC. and Cymbopogon flexuosus Stapf.</td>
</tr>
<tr>
<td>Lemon peel</td>
<td>Citrus limon (L.) Burm. f.</td>
</tr>
<tr>
<td>Licorice</td>
<td>Glycyrrhiza glabra L. and other spp. of Glycyrrhiza.</td>
</tr>
<tr>
<td>Lime</td>
<td>Citrus aurantifolia Swingle.</td>
</tr>
<tr>
<td>Linden flowers</td>
<td>Tilla spp.</td>
</tr>
<tr>
<td>Locust bean</td>
<td>Ceratonia silqua L.</td>
</tr>
<tr>
<td>Lupulin</td>
<td>Humulus lupulus L.</td>
</tr>
<tr>
<td>Mace</td>
<td>Myristica fragrans Houtt.</td>
</tr>
<tr>
<td>Malt (extract)</td>
<td>Hordeum vulgare L., or other grains.</td>
</tr>
<tr>
<td>Mandarin</td>
<td>Citrus reticulata Blanco.</td>
</tr>
<tr>
<td>Marjoram, sweet</td>
<td>Majorana hortensis Moench.</td>
</tr>
<tr>
<td>Mate 1</td>
<td>Ilex paraguanaensis St. Hili.</td>
</tr>
<tr>
<td>Melissa (see balm)</td>
<td>Do.</td>
</tr>
<tr>
<td>Menthol</td>
<td>Mentha spp.</td>
</tr>
<tr>
<td>Menthol acetate</td>
<td>Do.</td>
</tr>
<tr>
<td>Molasses (extract)</td>
<td>Saccharum officinarum L.</td>
</tr>
<tr>
<td>Mustard</td>
<td>Brassica spp.</td>
</tr>
<tr>
<td>Naringin</td>
<td>Citrus paradisi Macf.</td>
</tr>
<tr>
<td>Neroli, bigarade</td>
<td>Citrus aurantium L.</td>
</tr>
<tr>
<td>Nutmeg</td>
<td>Myristica fragrans Houtt.</td>
</tr>
<tr>
<td>Common name</td>
<td>Botanical name of plant source</td>
</tr>
<tr>
<td>---------------------------------</td>
<td>--------------------------------------------------------------------</td>
</tr>
<tr>
<td>Zedoary bark</td>
<td>Curcuma zedoaria Hook. and Thoms.</td>
</tr>
<tr>
<td>Ylang-ylang</td>
<td>Polianthes tuberosa L.</td>
</tr>
<tr>
<td>Violet leaves</td>
<td>Vanillia planifolia Andr. or Vanillia tahitensis J. W. Moore.</td>
</tr>
<tr>
<td>Violet flowers</td>
<td>Violia odorata L.</td>
</tr>
<tr>
<td>Tarragon</td>
<td>Thymus vulgaris L. and Thymus zygis var. gracilis Boiss.</td>
</tr>
<tr>
<td>Tarragon (see dog grass)</td>
<td>Thymus serepyllum L.</td>
</tr>
<tr>
<td>Tea</td>
<td>Thymus vulgaris L.</td>
</tr>
<tr>
<td>Thyme</td>
<td>Thymus serepyllum L.</td>
</tr>
<tr>
<td>Thyme, wild or creeping</td>
<td>Thymus vulgaris L. and Thymus zygis var. gracilis Boiss.</td>
</tr>
<tr>
<td>Nutgalls of Quercus</td>
<td>Nutgalls of Quercus</td>
</tr>
<tr>
<td>Nutgalls of Quercus, Oliver and</td>
<td>Related spp. of Quercus.</td>
</tr>
<tr>
<td>Nutgalls of Quercus, also in</td>
<td>Many other plants.</td>
</tr>
<tr>
<td>Pippisewa leaves</td>
<td>Chimaphila umbellata Nutt.</td>
</tr>
<tr>
<td>Pomegranate</td>
<td>Punica granatum L.</td>
</tr>
<tr>
<td>Privly ash bark</td>
<td>Xanthoxylum clava-herculis L.</td>
</tr>
<tr>
<td>Rose absolute</td>
<td>Xanthoxylum clava-herculis L.</td>
</tr>
<tr>
<td>Rose (otto of roses, attar of</td>
<td>Rosa alba L., Rosa centifolia L., Rosa damascena Mill., Rosa</td>
</tr>
<tr>
<td>roses)</td>
<td>gallica L., and var. of these spp.</td>
</tr>
<tr>
<td>Rose buds</td>
<td>Do.</td>
</tr>
<tr>
<td>Rose flowers</td>
<td>Do.</td>
</tr>
<tr>
<td>Rose fruit (hips)</td>
<td>Do.</td>
</tr>
<tr>
<td>Rose geranium</td>
<td>Pelargonium graveolens L'Her.</td>
</tr>
<tr>
<td>Rose leaves</td>
<td>Rosa spp.</td>
</tr>
<tr>
<td>Rosemary</td>
<td>Rosmarinus officinalis L.</td>
</tr>
<tr>
<td>Rue</td>
<td>Ruta graveolens L.</td>
</tr>
<tr>
<td>Saffron</td>
<td>Crocus sativus L.</td>
</tr>
<tr>
<td>Sage</td>
<td>Salvia officinalis L.</td>
</tr>
<tr>
<td>Sage, Greek</td>
<td>Salvia triloba L.</td>
</tr>
<tr>
<td>Sage, Spanish</td>
<td>Salvia lavandulaefolia Vahl.</td>
</tr>
<tr>
<td>St. John's bread</td>
<td>Geranium silique L.</td>
</tr>
<tr>
<td>Savory, summer</td>
<td>Satureia horntensis L.</td>
</tr>
<tr>
<td>Savory, winter</td>
<td>Satureia montana L.</td>
</tr>
<tr>
<td>Schinus molle</td>
<td>Schinus molle L.</td>
</tr>
<tr>
<td>Sloe berries (blackthorn berries)</td>
<td>Prunus spinosa L.</td>
</tr>
<tr>
<td>Spearmint</td>
<td>Mentha spicata L.</td>
</tr>
<tr>
<td>Spike lavender</td>
<td>Lavandula latifolia Vill.</td>
</tr>
<tr>
<td>Tamarind</td>
<td>Tamarindus indica L.</td>
</tr>
<tr>
<td>Tangerine</td>
<td>Citrus reticulata Blanco.</td>
</tr>
<tr>
<td>Tarragon</td>
<td>Revolution of Quercus, also in many other plants.</td>
</tr>
<tr>
<td>Tea</td>
<td>Thymus vulgaris L. and Thymus zygis var. gracilis Boiss.</td>
</tr>
<tr>
<td>Thyme</td>
<td>Thymus serepyllum L.</td>
</tr>
<tr>
<td>Thyme, wild or creeping</td>
<td>Thymus vulgaris L. and Thymus zygis var. gracilis Boiss.</td>
</tr>
<tr>
<td>Triticum (see dog grass)</td>
<td>Thymus serepyllum L.</td>
</tr>
<tr>
<td>Tuberoze</td>
<td>Polianthes tuberosa L.</td>
</tr>
<tr>
<td>Turmeric</td>
<td>Curcuma longa L.</td>
</tr>
<tr>
<td>Vanilla</td>
<td>Vanilla planifolia Andr. or Vanilla tahitensis J. W. Moore.</td>
</tr>
<tr>
<td>Violet leaves</td>
<td>Violia odorata L.</td>
</tr>
<tr>
<td>Violet leaves</td>
<td>Do.</td>
</tr>
<tr>
<td>Wild cherry bark</td>
<td>Prunus serotina Ehrh.</td>
</tr>
<tr>
<td>Yang-yang</td>
<td>Cananga odorata Hopp. f. and Thoms.</td>
</tr>
<tr>
<td>Zedoary bark</td>
<td>Curcuma zedoaria Rosc.</td>
</tr>
</tbody>
</table>
§ 582.30 Natural substances used in conjunction with spices and other natural seasonings and flavorings.

Natural substances used in conjunction with spices and other natural seasonings and flavorings that are generally recognized as safe for their intended use, within the meaning of section 409 of the act, are as follows:

<table>
<thead>
<tr>
<th>Common name</th>
<th>Botanical name of plant source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algae, brown (kelp)</td>
<td>Laminaria spp. and Nereocystis spp.</td>
</tr>
<tr>
<td>Algae, red</td>
<td>Porphyrta spp. and Rhodymenia palmata (L.) Grev.</td>
</tr>
<tr>
<td>Dulse</td>
<td>Rhodymenia palmata (L.) Grev.</td>
</tr>
</tbody>
</table>

§ 582.40 Natural extractives (solvent-free) used in conjunction with spices, seasonings, and flavorings.

Natural extractives (solvent-free) used in conjunction with spices, seasonings, and flavorings that are generally recognized as safe for their intended use, within the meaning of section 409 of the act, are as follows:

<table>
<thead>
<tr>
<th>Common name</th>
<th>Botanical name of plant source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algae, brown</td>
<td>Laminaria spp. and Nereocystis spp.</td>
</tr>
<tr>
<td>Algae, red</td>
<td>Porphyrta spp. and Rhodymenia palmata (L.) Grev.</td>
</tr>
<tr>
<td>Apricot kernel (persic oil)</td>
<td>Prunus armeniaca L.</td>
</tr>
<tr>
<td>Dulse</td>
<td>Rhodymenia palmata (L.) Grev.</td>
</tr>
<tr>
<td>Peach kernel (persic oil)</td>
<td>Prunus persica Sieb. et Zucc.</td>
</tr>
<tr>
<td>Peanut stearine</td>
<td>Araeis hypogaea L.</td>
</tr>
<tr>
<td>Persic oil (see apricot kernel and peach kernel)</td>
<td>Cynoqia oblonga Miller.</td>
</tr>
<tr>
<td>Quince seed</td>
<td></td>
</tr>
</tbody>
</table>

§ 582.50 Certain other spices, seasonings, essential oils, oleoresins, and natural extracts.

Certain other spices, seasonings, essential oils, oleoresins, and natural extracts that are generally recognized as safe for their intended use, within the meaning of section 409 of the act, are as follows:

<table>
<thead>
<tr>
<th>Common name</th>
<th>Derivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ambergris</td>
<td>Physeter macrocephalus L.</td>
</tr>
<tr>
<td>Casteroem</td>
<td>Castor fiber L. and C. canadensis Kuhl.</td>
</tr>
<tr>
<td>Civet (zibeth, zibet, zibetum)</td>
<td>Civet cats, Viverra civetta Schreber and Viverra zibetha Schreber.</td>
</tr>
<tr>
<td>Cognac oil, white and green</td>
<td>Ethyl oenanthate, so-called.</td>
</tr>
<tr>
<td>Musk (Tonquin musk)</td>
<td>Musk deer, Moschus moschiferus L.</td>
</tr>
</tbody>
</table>

§ 582.60 Synthetic flavoring substances and adjuvants.

Synthetic flavoring substances and adjuvants that are generally recognized as safe for their intended use, within the meaning of section 409 of the act, are as follows:

<table>
<thead>
<tr>
<th>Common name</th>
<th>Derivation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acetaldehyde (ethanal)</td>
<td></td>
</tr>
<tr>
<td>Acetoin (acetyl methylcarbinol)</td>
<td></td>
</tr>
<tr>
<td>Aconitic acid (equisetic acid, citricid acid, achillicid acid)</td>
<td></td>
</tr>
<tr>
<td>Anethole (parapropenyl anisole)</td>
<td></td>
</tr>
<tr>
<td>Benzaldehyde (benzoic aldehyde)</td>
<td></td>
</tr>
<tr>
<td>N-Butyric acid (butanoic acid)</td>
<td>d- or L-; Carvone (carvol)</td>
</tr>
<tr>
<td>Cinnamaldehyde (cinnamic aldehyde)</td>
<td></td>
</tr>
<tr>
<td>Citral (2,6-dimethyloctadien-2,6-al-8, geranial, nerol)</td>
<td></td>
</tr>
<tr>
<td>Decanal (N-decyl aldehyde, capraldehyde, capric aldehyde, caprinaldehyde, aldehyde C-10)</td>
<td></td>
</tr>
<tr>
<td>Diacetyl (2,3-butanedione)</td>
<td>Ethyl acetate.</td>
</tr>
<tr>
<td>Ethyl butyrate</td>
<td>3-Methyl-3-phenyl glycicid acid ethyl ester (ethyl-ethyl-phenyl-glycidate, so-called strawberry aldehyde, C-16 aldehyde).</td>
</tr>
<tr>
<td>Eugenol</td>
<td>Ethyl vanilline.</td>
</tr>
<tr>
<td>Geranol (3,7-dimethyloctadien1-ol)</td>
<td></td>
</tr>
<tr>
<td>Geranyl acetate (geranol acetate)</td>
<td></td>
</tr>
</tbody>
</table>
Food and Drug Administration, HHS

§ 582.1061 Lactic acid.

(a) Product. Lactic acid.

(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.99 Adjuvants for pesticide chemicals.

Adjuvants, identified and used in accordance with 40 CFR 180.1001(c) and (d), which are added to pesticide use dilutions by a grower or applicator prior to application to the raw agricultural commodity, are exempt from the requirement of tolerances under section 409 of the act.

Subpart B—General Purpose Food Additives

§ 582.1005 Acetic acid.

(a) Product. Acetic acid.

(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1009 Adipic acid.

(a) Product. Adipic acid.

(b) [Reserved]

(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used as a buffer and neutralizing agent in accordance with good manufacturing or feeding practice.

§ 582.1033 Citric acid.

(a) Product. Citric acid.

(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1057 Hydrochloric acid.

(a) Product. Hydrochloric acid.

(b) [Reserved]

(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used as a buffer and neutralizing agent in accordance with good manufacturing or feeding practice.

§ 582.1061 Lactic acid.

(a) Product. Lactic acid.

(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

---

<table>
<thead>
<tr>
<th>Element</th>
<th>Source compounds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cobalt</td>
<td>Cobalt acetate.</td>
</tr>
<tr>
<td></td>
<td>Cobalt carbonate.</td>
</tr>
<tr>
<td></td>
<td>Cobalt chloride.</td>
</tr>
<tr>
<td></td>
<td>Cobalt oxide.</td>
</tr>
<tr>
<td></td>
<td>Cobalt sulfate.</td>
</tr>
<tr>
<td>Copper</td>
<td>Copper carbonate.</td>
</tr>
<tr>
<td></td>
<td>Copper chloride.</td>
</tr>
<tr>
<td></td>
<td>Copper gluconate.</td>
</tr>
<tr>
<td></td>
<td>Copper hydroxide.</td>
</tr>
<tr>
<td></td>
<td>Copper orthophosphate.</td>
</tr>
<tr>
<td></td>
<td>Copper oxide.</td>
</tr>
<tr>
<td></td>
<td>Copper pyrophosphate.</td>
</tr>
<tr>
<td></td>
<td>Copper sulfate.</td>
</tr>
<tr>
<td>Iodine</td>
<td>Calcium iodate.</td>
</tr>
<tr>
<td></td>
<td>Calcium iodobenzenate.</td>
</tr>
<tr>
<td></td>
<td>Cuprous iodide.</td>
</tr>
<tr>
<td></td>
<td>3,5-Diiodosalicylic acid.</td>
</tr>
<tr>
<td></td>
<td>Ethylenediamine dihydroiodide.</td>
</tr>
<tr>
<td></td>
<td>Potassium iodate.</td>
</tr>
<tr>
<td></td>
<td>Potassium iodide.</td>
</tr>
<tr>
<td></td>
<td>Sodium iodate.</td>
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<td>Manganese</td>
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<td>Zinc oxide.</td>
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</table>

1 All substances listed may be in anhydrous or hydrated form.
§ 582.1069 Malic acid.
(a) Product. Malic acid.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1073 Phosphoric acid.
(a) Product. Phosphoric acid.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1077 Potassium acid tartrate.
(a) Product. Potassium acid tartrate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1087 Sodium acid pyrophosphate.
(a) Product. Sodium acid pyrophosphate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1091 Succinic acid.
(a) Product. Succinic acid.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1095 Sulfuric acid.
(a) Product. Sulfuric acid.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1099 Tartaric acid.
(a) Product. Tartaric acid.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1125 Aluminum sulfate.
(a) Product. Aluminum sulfate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1127 Aluminum ammonium sulfate.
(a) Product. Aluminum ammonium sulfate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1129 Aluminum potassium sulfate.
(a) Product. Aluminum potassium sulfate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1131 Aluminum sodium sulfate.
(a) Product. Aluminum sodium sulfate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1135 Ammonium bicarbonate.
(a) Product. Ammonium bicarbonate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1137 Ammonium carbonate.
(a) Product. Ammonium carbonate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1139 Ammonium hydroxide.
(a) Product. Ammonium hydroxide.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1141 Ammonium phosphate.
(a) Product. Ammonium phosphate (mono- and dibasic).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1143 Ammonium sulfate.
(a) Product. Ammonium sulfate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1155 Bentonite.
(a) Product. Bentonite.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1165 Butane.
(a) Product. Butane.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1191 Calcium carbonate.
(a) Product. Calcium carbonate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1193 Calcium chloride.
(a) Product. Calcium chloride.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1195 Calcium citrate.
(a) Product. Calcium citrate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1199 Calcium gluconate.
(a) Product. Calcium gluconate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1205 Calcium hydroxide.
(a) Product. Calcium hydroxide.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1207 Calcium lactate.
(a) Product. Calcium lactate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1210 Calcium oxide.
(a) Product. Calcium oxide.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1217 Calcium phosphate.
(a) Product. Calcium phosphate (mono-, di-, and tribasic).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1235 Caramel.
(a) Product. Caramel.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1240 Carbon dioxide.
(a) Product. Carbon dioxide.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1275 Dextrins.
(a) Product. Dextrins of average molecular weight below 100,000.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1320 Glycerin.
(a) Product. Glycerin.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1324 Glyceryl monostearate.
(a) Product. Glyceryl monostearate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1355 Helium.
(a) Product. Helium.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.
§ 582.1366 Hydrogen peroxide.
(a) Product. Hydrogen peroxide.
(b) [Reserved]
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used as a bleaching agent in accordance with good manufacturing or feeding practice.

§ 582.1400 Lecithin.
(a) Product. Lecithin.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1425 Magnesium carbonate.
(a) Product. Magnesium carbonate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1428 Magnesium hydroxide.
(a) Product. Magnesium hydroxide.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1431 Magnesium oxide.
(a) Product. Magnesium oxide.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1480 Methylcellulose.
(a) Product. U.S.P. methylcellulose, except that the methoxy content shall not be less than 27.5 percent and not more than 31.5 percent on a dry-weight basis.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1500 Monoammonium glutamate.
(a) Product. Monoammonium glutamate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1516 Monopotassium glutamate.
(a) Product. Monopotassium glutamate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1540 Nitrogen.
(a) Product. Nitrogen.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1585 Papain.
(a) Product. Papain.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1613 Potassium bicarbonate.
(a) Product. Potassium bicarbonate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1619 Potassium carbonate.
(a) Product. Potassium carbonate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1625 Potassium citrate.
(a) Product. Potassium citrate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1631 Potassium hydroxide.
(a) Product. Potassium hydroxide.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1643 Potassium sulfate.
(a) Product. Potassium sulfate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.
§ 582.1655  Propane.
(a) Product. Propane.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1666  Propylene glycol.
(a) Product. Propylene glycol.
(b) Conditions of use. This substance is generally recognized as safe (except in cat food) when used in accordance with good manufacturing or feeding practice.

[41 FR 38657, Sept. 10, 1976, as amended at 61 FR 19544, May 2, 1996]

§ 582.1685  Rennet.
(a) Product. Rennet (rennin).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1711  Silica aerogel.
(a) Product. Silica aerogel as a finely powdered microcellular silica foam having a minimum silica content of 89.5 percent.
(b) [Reserved]
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used as a component of antifoaming agents in accordance with good manufacturing or feeding practice.

§ 582.1721  Sodium acetate.
(a) Product. Sodium acetate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1736  Sodium bicarbonate.
(a) Product. Sodium bicarbonate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1742  Sodium carbonate.
(a) Product. Sodium carbonate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1745  Sodium carboxymethylcellulose.
(a) Product. Sodium carboxymethylcellulose is the sodium salt of carboxymethylcellulose not less than 99.5 percent on a dry-weight basis, with maximum substitution of 0.95 carboxymethyl groups per anhydroglucose unit, and with a minimum viscosity of 25 centipoises for 2 percent by weight aqueous solution at 25°C.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1748  Sodium caseinate.
(a) Product. Sodium caseinate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1751  Sodium citrate.
(a) Product. Sodium citrate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1763  Sodium hydroxide.
(a) Product. Sodium hydroxide.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1775  Sodium pectinate.
(a) Product. Sodium pectinate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1778  Sodium phosphate.
(a) Product. Sodium phosphate (mono-, di-, and tribasic).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1781  Sodium aluminum phosphate.
(a) Product. Sodium aluminum phosphate.
§ 582.1792  Sodium sesquicarbonate.
(a) Product. Sodium sesquicarbonate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1804  Sodium potassium tartrate.
(a) Product. Sodium potassium tartrate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1810  Sodium tripolyphosphate.
(a) Product. Sodium tripolyphosphate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1901  Triacetin.
(a) Product. Triacetin (glyceryl triacetate).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1973  Beeswax.
(a) Product. Beeswax (yellow wax).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1975  Bleached beeswax.
(a) Product. Bleached beeswax (white wax).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.1978  Carnauba wax.
(a) Product. Carnauba wax.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

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Subpart C—Anticaking Agents

§ 582.2122  Aluminum calcium silicate.
(a) Product. Aluminum calcium silicate.
(b) Tolerance. 2 percent.
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.2227  Calcium silicate.
(a) Product. Calcium silicate.
(b) Tolerance. 2 percent and 5 percent.
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used at levels not exceeding 2 percent in table salt and 5 percent in baking powder in accordance with good manufacturing or feeding practice.

§ 582.2437  Magnesium silicate.
(a) Product. Magnesium silicate.
(b) Tolerance. 2 percent.
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in table salt in accordance with good manufacturing or feeding practice.

§ 582.2727  Sodium aluminosilicate.
(a) Product. Sodium aluminosilicate (sodium silicoaluminate).
(b) Tolerance. This substance is generally recognized as safe for use at a level not exceeding 2 percent in accordance with good manufacturing or feeding practice.

§ 582.2729  Hydrated sodium calcium aluminosilicate.
(a) Product. Hydrated sodium calcium aluminosilicate (sodium calcium silicoaluminate).
(b) Tolerance. This substance is generally recognized as safe for use at a level not exceeding 2 percent in accordance with good manufacturing or feeding practice.

§ 582.2906  Tricalcium silicate.
(a) Product. Tricalcium silicate.
(b) Tolerance. 2 percent.
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in table salt.
Food and Drug Administration, HHS

§ 582.3013 Ascorbic acid.
(a) Product. Ascorbic acid.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.3021 Benzoic acid.
(a) Product. Benzoic acid.
(b) Tolerance. This substance is generally recognized as safe for use at a level not exceeding 0.1 percent in accordance with good manufacturing or feeding practice.

§ 582.3041 Erythorbic acid.
(a) Product. Erythorbic acid.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.3081 Propionic acid.
(a) Product. Propionic acid.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.3089 Sorbic acid.
(a) Product. Sorbic acid.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.3109 Thiiodipropionic acid.
(a) Product. Thiiodipropionic acid.
(b) Tolerance. This substance is generally recognized as safe for use in food when the total content of antioxidants is not over 0.02 percent of fat or oil content including essential (volatile) oil content of the food, provided the substance is used in accordance with good manufacturing or feeding practice.

§ 582.3149 Ascorbyl palmitate.
(a) Product. Ascorbyl palmitate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.3169 Butylated hydroxyanisole.
(a) Product. Butylated hydroxyanisole.
(b) Tolerance. This substance is generally recognized as safe for use in food when the total content of antioxidants is not over 0.02 percent of fat or oil content, including essential (volatile) oil content of the food provided the substance is used in accordance with good manufacturing or feeding practice.

§ 582.3173 Butylated hydroxytoluene.
(a) Product. Butylated hydroxytoluene.
(b) Tolerance. This substance is generally recognized as safe for use in food when the total content of antioxidants is not over 0.02 percent of fat or oil content, including essential (volatile) oil content of the food provided the substance is used in accordance with good manufacturing or feeding practice.

§ 582.3189 Calcium ascorbate.
(a) Product. Calcium ascorbate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.3221 Calcium propionate.
(a) Product. Calcium propionate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.3225 Calcium sorbate.
(a) Product. Calcium sorbate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.3280 Dilauryl thiiodipropionate.
(a) Product. Dilauryl thiiodipropionate.
(b) Tolerance. This substance is generally recognized as safe for use in food when the total content of antioxidants is not over 0.02 percent of fat or oil content, including essential (volatile) oil content of the food, provided the substance is used in accordance with good manufacturing or feeding practice.
§ 582.3336  Good manufacturing or feeding practice.

§ 582.3336  Gum guaiac.
(a) Product. Gum guaiac.
(b) Tolerance. 0.1 percent (equivalent antioxidant activity 0.01 percent).
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in edible fats or oils in accordance with good manufacturing or feeding practice.

§ 582.3490  Methylparaben.
(a) Product. Methylparaben (methyl p-hydroxybenzoate).
(b) Tolerance. This substance is generally recognized as safe for use at a level not exceeding 0.1 percent in accordance with good manufacturing or feeding practice.

§ 582.3616  Potassium bisulfite.
(a) Product. Potassium bisulfite.
(b) [Reserved]
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice, except that it is not used in meats or in food recognized as source of vitamin B1.

§ 582.3637  Potassium metabisulfite.
(a) Product. Potassium metabisulfite.
(b) [Reserved]
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice, except that it is not used in meats or in food recognized as source of vitamin B1.

§ 582.3640  Potassium sorbate.
(a) Product. Potassium sorbate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.3660  Propyl gallate.
(a) Product. Propyl gallate.
(b) Tolerance. This substance is generally recognized as safe for use in food when the total content of antioxidants is not over 0.02 percent of fat or oil content, including essential (volatile) oil content of the food, provided the substance is used in accordance with good manufacturing or feeding practice.

§ 582.3670  Propylparaben.
(a) Product. Propylparaben (propyl p-hydroxybenzoate).
(b) Tolerance. This substance is generally recognized as safe for use at a level not exceeding 0.1 percent in accordance with good manufacturing or feeding practice.

§ 582.3731  Sodium ascorbate.
(a) Product. Sodium ascorbate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.3733  Sodium benzoate.
(a) Product. Sodium benzoate.
(b) Tolerance. This substance is generally recognized as safe for use at a level not exceeding 0.1 percent in accordance with good manufacturing or feeding practice.

§ 582.3739  Sodium bisulfite.
(a) Product. Sodium bisulfite.
(b) [Reserved]
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice, except that it is not used in meats or in food recognized as source of vitamin B1.

§ 582.3766  Sodium metabisulfite.
(a) Product. Sodium metabisulfite.
(b) [Reserved]
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice, except that it is not used in meats or in food recognized as source of vitamin B1.

§ 582.3784  Sodium propionate.
(a) Product. Sodium propionate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.3795  Sodium sorbate.
(a) Product. Sodium sorbate.
§ 582.3798 Sodium sulfite.
(a) Product. Sodium sulfite.
(b) [Reserved]
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice, except that it is not used in meats or in food recognized as source of vitamin B1.

§ 582.3845 Stannous chloride.
(a) Product. Stannous chloride.
(b) Tolerance. This substance is generally recognized as safe for use at a level not exceeding 0.0015 percent calculated as tin in accordance with good manufacturing or feeding practice.

§ 582.3862 Sulfur dioxide.
(a) Product. Sulfur dioxide.
(b) [Reserved]
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice, except that it is not used in meats or in food recognized as source of vitamin B1.

§ 582.3890 Tocopherols.
(a) Product. Tocopherols.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.4101 Diacetyl tartaric acid esters of mono- and diglycerides of edible fats or oils, or edible fat-forming fatty acids.
(a) Product. Diacetyl tartaric acid esters of mono- and diglycerides of edible fats or oils, or edible fat-forming fatty acids.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.4505 Mono- and diglycerides of edible fats or oils, or edible fat-forming acids.
(a) Product. Mono- and diglycerides of edible fats or oils, or edible fat-forming acids.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.4521 Monosodium phosphate derivatives of mono- and diglycerides of edible fats or oils, or edible fat-forming fatty acids.
(a) Product. Monosodium phosphate derivatives of mono- and diglycerides of edible fats or oils, or edible fat-forming fatty acids.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.4666 Propylene glycol.
(a) Product. Propylene glycol.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

Subpart F—Nutrients and/or Dietary Supplements

§ 582.5013 Ascorbic acid.
(a) Product. Ascorbic acid.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5017 Aspartic acid.
(a) Product. Aspartic acid (L- and DL-forms).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5049 Aminoacetic acid.
(a) Product. Glycine (aminoacetic acid).
(b) [Reserved]

1Amino acids listed in this subpart may be free hydrochloride salt, hydrated, or anhydrous form, where applicable.
§ 582.5065 Linoleic acid.
   (a) Product. Linoleic acid prepared from edible fats and oils and free from chick-edema factor.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5065 Linoleic acid.
   (c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in animal feeds in accordance with good manufacturing or feeding practice.

§ 582.5065 Linoleic acid.

§ 582.5118 Alanine.
   (a) Product. Alanine (L- and DL-forms).
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5118 Alanine.

§ 582.5118 Alanine.

§ 582.5145 Arginine.
   (a) Product. Arginine (L- and DL-forms).
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5145 Arginine.

§ 582.5145 Arginine.

§ 582.5159 Biotin.
   (a) Product. Biotin.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5159 Biotin.

§ 582.5159 Biotin.

§ 582.5191 Calcium carbonate.
   (a) Product. Calcium carbonate.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5191 Calcium carbonate.

§ 582.5191 Calcium carbonate.

§ 582.5201 Calcium glycerophosphate.
   (a) Product. Calcium glycerophosphate.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5201 Calcium glycerophosphate.

§ 582.5201 Calcium glycerophosphate.

§ 582.5210 Calcium oxide.
   (a) Product. Calcium oxide.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5210 Calcium oxide.

§ 582.5210 Calcium oxide.

§ 582.5212 Calcium pantothenate.
   (a) Product. Calcium pantothenate.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5212 Calcium pantothenate.

§ 582.5212 Calcium pantothenate.

§ 582.5217 Calcium phosphate.
   (a) Product. Calcium phosphate (mono-, di-, and tribasic).
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5217 Calcium phosphate.

§ 582.5217 Calcium phosphate.

§ 582.5223 Calcium pyrophosphate.
   (a) Product. Calcium pyrophosphate.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5223 Calcium pyrophosphate.

§ 582.5223 Calcium pyrophosphate.

§ 582.5230 Calcium sulfate.
   (a) Product. Calcium sulfate.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5230 Calcium sulfate.

§ 582.5230 Calcium sulfate.

§ 582.5245 Carotene.
   (a) Product. Carotene.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5245 Carotene.

§ 582.5245 Carotene.

§ 582.5250 Choline bitartrate.
   (a) Product. Choline bitartrate.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5250 Choline bitartrate.

§ 582.5250 Choline bitartrate.

§ 582.5252 Choline chloride.
   (a) Product. Choline chloride.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5252 Choline chloride.

§ 582.5252 Choline chloride.
§ 582.5260 Copper gluconate.
   (a) Product. Copper gluconate.
   (b) Tolerance. This substance is generally recognized as safe for use at a level not exceeding 0.005 percent in accordance with good manufacturing or feeding practice.

§ 582.5271 Cysteine.
   (a) Product. Cysteine (L-forms).
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5273 Cystine.
   (a) Product. Cystine (L- and DL-forms).
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5301 Ferric phosphate.
   (a) Product. Ferric phosphate.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5304 Ferric pyrophosphate.
   (a) Product. Ferric pyrophosphate.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5306 Ferric sodium pyrophosphate.
   (a) Product. Ferric sodium pyrophosphate.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5308 Ferrous gluconate.
   (a) Product. Ferrous gluconate.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5311 Ferrous lactate.
   (a) Product. Ferrous lactate.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5315 Ferrous sulfate.
   (a) Product. Ferrous sulfate.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5361 Histidine.
   (a) Product. Histidine (L- and DL-forms).
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5370 Inositol.
   (a) Product. Inositol.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5375 Iron reduced.
   (a) Product. Iron reduced.
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5381 Isoleucine.
   (a) Product. Isoleucine (L- and DL-forms).
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5406 Leucine.
   (a) Product. Leucine (L- and DL-forms).
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5411 Lysine.
   (a) Product. Lysine (L- and DL-forms).
   (b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5431 Magnesium oxide.
   (a) Product. Magnesium oxide.
§ 582.5434 Magnesium phosphate.
(a) Product. Magnesium phosphate (di- and tribasic).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5435 Magnesium sulfate.
(a) Product. Magnesium sulfate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5443 Magnesium chloride.
(a) Product. Magnesium chloride.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5446 Manganese chloride.
(a) Product. Manganese chloride.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5449 Manganese citrate.
(a) Product. Manganese citrate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5452 Manganese gluconate.
(a) Product. Manganese gluconate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5455 Manganese glycerophosphate.
(a) Product. Manganese glycerophosphate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5458 Manganese hypophosphite.
(a) Product. Manganese hypophosphite.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5461 Manganese sulfate.
(a) Product. Manganese sulfate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5464 Manganous oxide.
(a) Product. Manganous oxide.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5470 Mannitol.
(a) Product. Mannitol.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5475 Methionine.
(a) Product. Methionine.
(b) [Reserved]
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in animal feeds in accordance with good manufacturing or feeding practice.

§ 582.5477 Methionine hydroxy analog and its calcium salts.
(a) Product. Methionine hydroxy analog and its calcium salts.
(b) [Reserved]
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in animal feeds in accordance with good manufacturing or feeding practice.

§ 582.5530 Niacin.
(a) Product. Niacin.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5535 Nicotinamide.
(a) Product. Nicotinamide.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5580 D-Pantothenyl alcohol.
(a) Product. D-Pantothenyl alcohol.
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§ 582.5590 Phenylalanine.
(a) Product. Phenylalanine (L- and DL-forms).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5622 Potassium chloride.
(a) Product. Potassium chloride.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5628 Potassium glycerophosphate.
(a) Product. Potassium glycerophosphate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5634 Potassium iodide.
(a) Product. Potassium iodide.
(b) Tolerance. 0.01 percent.
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in table salt as a source of dietary iodine in accordance with good manufacturing or feeding practice.

§ 582.5650 Proline.
(a) Product. Proline (L- and DL-forms).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5676 Pyridoxine hydrochloride.
(a) Product. Pyridoxine hydrochloride.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5678 Thiamine hydrochloride.
(a) Product. Thiamine hydrochloride.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5678 Thiamine mononitrate.
(a) Product. Thiamine mononitrate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5811 Threonine.
(a) Product. Threonine (L- and DL-forms).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5875 Thiamine hydrochloride.
(a) Product. Thiamine hydrochloride.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5878 Thiamine mononitrate.
(a) Product. Thiamine mononitrate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5881 Threonine.
(a) Product. Threonine (L- and DL-forms).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5881 Threonine.
(a) Product. Threonine (L- and DL-forms).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5881 Threonine.
(a) Product. Threonine (L- and DL-forms).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.
§ 582.5890  Tocopherols.
(a) Product. Tocopherols.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5892  a-Tocopherol acetate.
(a) Product. a-Tocopherol acetate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5915  Tryptophane.
(a) Product. Tryptophane (L- and DL-forms).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5920  Tyrosine.
(a) Product. Tyrosine (L- and DL-forms).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5925  Valine.
(a) Product. Valine (L- and DL-forms).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5930  Vitamin A.
(a) Product. Vitamin A.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5933  Vitamin A acetate.
(a) Product. Vitamin A acetate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5936  Vitamin A palmitate.
(a) Product. Vitamin A palmitate.

§ 582.5945  Vitamin B₁₂.
(a) Product. Vitamin B₁₂.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5950  Vitamin D₂.
(a) Product. Vitamin D₂.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5953  Vitamin D₃.
(a) Product. Vitamin D₃.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5985  Zinc chloride.
(a) Product. Zinc chloride.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5988  Zinc gluconate.
(a) Product. Zinc gluconate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5991  Zinc oxide.
(a) Product. Zinc oxide.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5994  Zinc stearate.
(a) Product. Zinc stearate prepared from stearic acid free from chick-edema factor.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.5997  Zinc sulfate.
(a) Product. Zinc sulfate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

Subpart G—Sequestrants

§ 582.6033 Citric acid.
(a) Product. Citric acid.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6085 Sodium acid phosphate.
(a) Product. Sodium acid phosphate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6099 Tartaric acid.
(a) Product. Tartaric acid.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6185 Calcium acetate.
(a) Product. Calcium acetate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6193 Calcium chloride.
(a) Product. Calcium chloride.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6195 Calcium citrate.
(a) Product. Calcium citrate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6197 Calcium diacetate.
(a) Product. Calcium diacetate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6199 Calcium gluconate.
(a) Product. Calcium gluconate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6203 Calcium hexametaphosphate.
(a) Product. Calcium hexametaphosphate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6215 Monobasic calcium phosphate.
(a) Product. Monobasic calcium phosphate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6219 Calcium phytate.
(a) Product. Calcium phytate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6285 Dipotassium phosphate.
(a) Product. Dipotassium phosphate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6290 Disodium phosphate.
(a) Product. Disodium phosphate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6386 Isopropyl citrate.
(a) Product. Isopropyl citrate.
(b) Tolerance. This substance is generally recognized as safe for use at a level not exceeding 0.02 percent in accordance with good manufacturing or feeding practice.

§ 582.6511 Monoisopropyl citrate.
(a) Product. Monoisopropyl citrate.
§ 582.6625  
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6625  
Potassium citrate.  
(a) Product. Potassium citrate.  
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.  

§ 582.6751  
Sodium citrate.  
(a) Product. Sodium citrate.  
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.  

§ 582.6754  
Sodium diacetate.  
(a) Product. Sodium diacetate.  
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6757  
Sodium gluconate.  
(a) Product. Sodium gluconate.  
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6760  
Sodium hexametaphosphate.  
(a) Product. Sodium hexametaphosphate.  
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6769  
Sodium metaphosphate.  
(a) Product. Sodium metaphosphate.  
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6778  
Sodium phosphate.  
(a) Product. Sodium phosphate (mono-, di-, and tribasic).  
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6801  
Sodium tartrate.  
(a) Product. Sodium tartrate.  
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6804  
Sodium potassium tartrate.  
(a) Product. Sodium potassium tartrate.  
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6807  
Sodium thiosulfate.  
(a) Product. Sodium thiosulfate.  
(b) Tolerance. 0.1 percent.  
(c) Limitations, restrictions, or explanation. This substance is generally recognized as safe when used in salt in accordance with good manufacturing or feeding practice.

§ 582.6810  
Sodium tripolyphosphate.  
(a) Product. Sodium tripolyphosphate.  
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.6851  
Stearyl citrate.  
(a) Product. Stearyl citrate.  
(b) Tolerance. This substance is generally recognized as safe for use at a level not exceeding 0.15 percent in accordance with good manufacturing or feeding practice.
Subpart H—Stabilizers

§ 582.7115 Agar-agar.
(a) Product. Agar-agar.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.7133 Ammonium alginate.
(a) Product. Ammonium alginate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.7187 Calcium alginate.
(a) Product. Calcium alginate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.7255 Chondrus extract.
(a) Product. Chondrus extract (carrageenin).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.7330 Gum arabic.
(a) Product. Acacia (gum arabic).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.7333 Gum ghatti.
(a) Product. Gum ghatti.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.7399 Guar gum.
(a) Product. Guar gum.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.7343 Locust bean gum.
(a) Product. Locust (carob) bean gum.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.7349 Sterculia gum.
(a) Product. Sterculia gum (karaya gum).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.7351 Gum tragacanth.
(a) Product. Tragacanth (gum tragacanth).
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.7610 Potassium alginate.
(a) Product. Potassium alginate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

§ 582.7724 Sodium alginate.
(a) Product. Sodium alginate.
(b) Conditions of use. This substance is generally recognized as safe when used in accordance with good manufacturing or feeding practice.

PART 584—FOOD SUBSTANCES AFFIRMED AS GENERALLY RECOGNIZED AS SAFE IN FEED AND DRINKING WATER OF ANIMALS

Subpart A [Reserved]

Subpart B—Listing of Specific Substances Affirmed as GRAS

Sec.
584.200 Ethyl alcohol containing ethyl acetate.
584.700 Hydrophobic silicas.


Subpart A [Reserved]

Subpart B—Listing of Specific Substances Affirmed as GRAS

§ 584.200 Ethyl alcohol containing ethyl acetate.

The feed additive ethyl alcohol containing ethyl acetate meets the requirement of 27 CFR 212.45, being not less than 92.5 percent ethyl alcohol, each 100 gallons having had added the